

THE ^{72c}
Weaver and Housewife's Pocket-book ;

CONTAINING ^{1042. 1/2}

RULES²

FOR

The right Making of Linen Cloth.

Wherein is shown,

What should be the Weight of each Hank of Yarn, that is fit for any Hundred of the Reed ; and likewise, the Number of right telled Yarn, in Spinels, Slips, and Cuts, that will be sufficient to make any Number of Ells, from 1 to 60, in a 6 to a 25 Hundred *inclusive*.

WITH

Several useful Tables of *Dutch* Weight, and the Measure of the *Dutch* Reeds on the *Scots* Ell.

To which is subjoined,

A distinct Receipt for boiling of Yarn after the *Dutch* Method.

All necessary for the Improvement of the Linen Trade.

By DAVID RAMSAY Weaver in *Dalkeith*.

Entered in Stationers Hall.

EDINBURGH:

Printed for the Author, and sold by him in *Dalkeith*.

M DCC L.

THE
STANDARD AND FAVORITE'S Pocket-book :

CONTAINING

TABLES

FOR

The Right Making of Linen Cloth.

Wherein is shown

What should be the Weight of each Thread of
Linen; that is for any Number of the Thread;
and likewise the Number of it in the Thread;
and the Number of Threads in the Cloth; that with
the Weight of the Thread and the Number of
Threads in the Cloth, the Weight of the Cloth
may be found.

By J. H.

Author of the Tables of Board Measure and the
Tables of the Area of Rectangles on the Square.

To which is added

A Short Treatise for the Design of Laid and the Draw
Machine.

All necessary for the Improvement of the Linen Trade.

By David HARRIS, Weaver in Dublin.

Printed in Dublin.

ADAMSON & CO.

Printed for the Author, and sold by him in Dublin.
MDCCLXXII.

T O

The Right Honourable,

The TRUSTEES for
the Manufactures in
Scotland,

This small TREATISE on the
Right Manner of Making Li-
nen Cloth, is most humbly
offered by,

Their HONOURS

Most obedient

and most humble

Servant,

DAVID RAMSAY.

The Right Honourable

The TRUSTEES for
the Manufactures in
Scotland,



This small
Right Manu-
facture
offered by

Then Honour

Most obedient

and most humble

Seventy

Dated 18th

PREFACE.

THE Linen Manufacture in *Scotland*, being a most valuable Branch of its Trade; and Persons of all Ranks having of late very much distinguished themselves, by their most laudable Attempts towards its Improvement, in which they have happily succeeded, to the great Benefit and Glory of their Country; and it being the Duty of every one, who sincerely wishes the Welfare of it, to contribute what they can to so valuable a Purpose, I have presumed to offer the Publick some Rules and Regulations for the right Making of Linen Cloth: Altho' a great many have attained to great Improvement on the Subject; yet, it is humbly hoped, these Rules will help Apprentices and Journey-men, in some Measure, for their further Improvement.

I have

vi P R E F A C E.

I have confined this little Book within as narrow Bounds as possible, that it may be sold cheap; where, every one that understands Figures will plainly see the Weight of each Slip of Yarn, that will be fit for any Hundred, from a 6 to a 25 Hundred *inclusive*; and likewise, the Number of Spindles, Slips and Cuts, that will be sufficient for making any Number of Yards of Cloth from 1 to 60 Yards; which will be useful, as is hoped, not only for Apprentices and Journey-men; but every Housewife may, by the Help of this little Book, know how to prepare her Yarn, and have it right woven into Cloth, so as to answer the Market; and thus not a little contribute to the Improvement of our Linen Trade.

R U L E S

RULES to be observed in making of plain Linen Cloth.

Of Yarn in general.

ALL Yarn, according to Act of Parliament, is to be reeled on a Reel of 10 Quarters of a Yard, or 90 Inches in Circumference; the Half of the Length, when folded together, is 45 Inches, which is allowed for one Ell of Cloth, which, with the Thumb-breadth, or Inch to the Ell, makes 38 Inches. The Difference betwixt 45 Inches of Yarn, and 38 Inches of Cloth, is 7 Inches, which is allowed to sink up in the Weaving and Bleaching.

N. B. That all Yarn must be reeled and tied up according to Order; that is to say, each Spinel of Yarn is to contain 4 Slips or Hanks, and each Slip or Hank is to contain 12 Cuts, and each Cut is to contain 120 Threads: Now, there being 120 Threads in one Cut, this makes 6 Porters to one Hundred of the Reed, whether fine or coarse; because

cause 20 Threads make one Porter, and 5 Porters make one Hundred: Now, one Slip, or 12 Cuts, will be 12 Times 6, which is 72 Porters, or 14 Hundred and 2 Porters for one Ell of Cloth.

A TABLE of the Tell of Yarn.

1	Spinel.
4	Slips or Hanks in one Spinel.
4	Slips.
12	Cuts in one Slip or Hank.
48	Cuts in one Spinel.
120	Threads in one Cut.
5760	Threads in one Spinel.

N. B. That all along thro' this Book, it is supposed the Yarn is just reeled, and right telled; for in an exact Calculation of this kind, there is no Allowance for Deficiency, either of bad Tell or short Reels: The Maker, and not the Buyer, is to suffer for bad Tell, and unjust Reels.

A TABLE shewing how much true counted Yarn will warp one Ell of Cloth, from a 6 to a 25 Hundred, inclusive.

H.	C.	T.	L.
6	5	00	0
7	5	100	5
8	6	80	4
9	7	60	3
10	8	40	2
11	9	20	1
12	10	00	0
13	10	100	5
14	11	80	4
15	12	60	3
16	13	40	2
17	14	20	1
18	15	00	0
19	15	100	5
20	16	80	4
21	17	60	3
22	18	40	2
23	19	20	1
24	20	00	0
25	20	100	5

N. B. That the first Column towards the left Hand, is the Hundreds of Warps; and opposite to them, is, the Number of Cuts and Threads that will warp one Ell of such a Hundred; and the last Column, is the Loops, or Porters, that is contained in such a Number of Threads; as for Example, and one will serve for both this and several other Tables.

Suppose you want to know how much Yarn will warp one Ell of a 13 Hundred; look for 13 Hundred in the Column of Hundreds, and opposite to it stands 10 Cuts and a 100 Threads, or 5 Loops or Porters, which is the Number of Yarn that 13 Hundred of Warp will require for one Ell: And so of all the rest in this Table.

B

For

For the better understanding of the following Tables, observe the true Calculation as was said before, that is to say, 20 Threads make one Loop or Porter; and 6 Loops or Porters, make one Cut; and 12 Cuts make one Slip; and 4 Slips make one Spinel: Likewise in some Hundreds, it will take equal Yarn in Cuts for one Ell. As for Example, I shall suppose a 12 Hundred; now if 12 Hundred be multiplied by 5, the Porters in one Hundred will produce 60 Porters: Now if one Cut will give 6 Porters, for one Ell of any Hundred, consequently 10 Cuts must give 60 Porters of Warp, which is equal to 12 Hundred, as may be seen in the foregoing Table.

Secondly, Every Hundred of Warp will not agree with equal Cuts of Yarn for one Ells Warp. For a second Example, Take a 15 Hundred; now 15 Hundred being multiplied by 5, produces 75 Porters, and every Cut is to give 6 Porters, consequently 12 Cuts gives 72 Porters, and then I want 3 Porters, or Loops, to make out 75, which is 60 Threads, or 3 Loops, as you may see in the Table which will warp one Ell of a 15 Hundred.

There may be some Difficulty in a fewer Number of Ells, for some Hundreds; but as the following Table will shew the exact Number of Yarn for any Hundred, and Number of Ells; and when the Number of Ells turn high, the odd Threads, or Porters, make very often equal Yarn, in Spinels, Slips, and Cuts: And as this is the old Way of calculating of Warps, I shall give a Table for each Hundred, only for Warps, and then give other Tables for Warp and Woof together, which will be an exact Calculation.

N. B. That the Characters of each Column, is marked in the Tables, a Y. for Yards, S. for Spinels, Sl. for Slips, and C. for Cuts, L. for Loops, on the Top of each Column, and when Hundreds occur in some Tables, H. These

These TABLES shew how much true counted Yarn will warp a 6 and 7 Hundred, from 1 Ell to 60 Ells.

6 Hundred.

Y.	S.	Sl.	C.	L.
1	0	0	5	0
2	0	0	10	0
3	0	1	3	0
4	0	1	8	0
5	0	2	1	0
10	1	0	2	0
20	2	0	4	0
30	3	0	6	0
40	4	0	8	0
50	5	0	10	0
60	6	1	0	0

7 Hundred.

Y.	S.	Sl.	C.	L.
1	0	0	5	5
2	0	0	11	4
3	0	1	5	3
4	0	1	11	3
5	0	2	5	1
10	1	0	10	2
20	2	1	8	4
30	3	2	7	0
40	4	3	5	2
50	6	0	3	4
60	7	1	2	0

N. B. That the first Column towards the left Hand, is the Number of Ells from one to 60; and the next opposite Columns, is the Spinels, Slips, Cuts, and Loops, that any of the said Number of Ells will require.

These

These TABLES shew how much true counted Yarn will warp a 8 and 9 Hundred, from one Ell to 60 Ells.

8 Hundred.					9 Hundred.				
Y.	S.	Sl.	C.	L.	Y.	S.	Sl.	C.	L.
1	0	0	6	4	1	0	0	7½	0
2	0	1	1	2	2	0	1	3	0
3	0	1	8	0	3	0	1	10½	0
4	0	2	2	4	4	0	2	6	0
5	0	2	9	2	5	0	3	11½	0
10	1	1	6	4	10	1	2	3	0
20	2	3	1	2	20	3	0	6	0
30	4	0	8	0	30	4	2	9	0
40	5	2	2	4	40	6	1	0	0
50	6	3	8	2	50	7	3	3	0
60	8	1	4	0	60	9	1	6	0

N. B. That the first Column towards the left Hand, is the Number of Ells from one to 60; and the next opposite Columns, is the Spinels, Slips, Cuts, and Loops, that any of the said Number of Ells will require.

These

These TABLES shew how much true
 counted Yarn will warp a 10 and 11
 Hundred, from one Ell to 60 Ells.

10 Hundred.

Y.	S.	Sl.	C.	L.
1	0	0	8	2
2	0	1	4	4
3	0	2	1	0
4	0	2	9	2
5	0	3	5	4
10	1	2	11	2
20	3	1	10	4
30	5	0	10	0
40	6	3	9	2
50	8	2	8	4
60	10	1	8	0

11 Hundred.

Y.	S.	Sl.	C.	L.
1	0	0	9	1
2	0	1	6	2
3	0	2	3	3
4	0	3	0	4
5	0	3	9	5
10	1	3	7	4
20	3	3	3	2
30	5	2	11	0
40	7	2	6	4
50	9	2	1	2
60	11	1	10	0

N. B. That the first Column towards the
 left Hand, is the Number of Ells from one
 to 60; and the next opposite Columns, is
 the Spindels, Slips, Cuts, and Loops, that
 any of the said Number of Ells will require.

These

These TABLES shew how much true
counted Yarn will warp a 12 and 13
Hundred, from one Ell to 60 Ells.

12 Hundred.

Y.	S.	Sl.	C.	L.
1	0	0	10	0
2	0	1	8	0
3	0	2	6	0
4	0	3	4	0
5	1	0	2	0
10	2	0	4	0
20	4	0	8	0
30	6	1	0	0
40	8	1	4	0
50	10	1	8	0
60	12	2	0	0

13 Hundred.

Y.	S.	Sl.	C.	L.
1	0	0	10	5
2	0	1	9	4
3	0	2	8	3
4	0	3	7	2
5	1	0	6	1
10	2	1	0	2
20	4	2	0	4
30	6	3	1	0
40	9	0	1	2
50	11	1	1	4
60	13	2	2	0

N. B. That the first Column towards the
left Hand, is the Number of Ells from one
to 60; and the next opposite Columns, is
the Spinels, Slips, Cuts, and Loops, that
any of the said Number of Ells will require.

These

These TABLES shew how much true
counted Yarn will warp a 14 and 15
Hundred, from one Ell to 60 Ells.

14 Hundred.

Y.	S.	Sl.	C.	L.
1	0	0	11	4
2	0	1	11	2
3	0	2	11	0
4	0	3	10	4
5	1	0	10	2
10	2	1	8	4
20	4	3	5	2
30	7	1	2	0
40	9	2	10	4
50	12	0	6	2
60	14	2	4	0

15 Hundred.

Y.	S.	Sl.	C.	L.
1	0	0	12 $\frac{1}{2}$	0
2	0	2	1	0
3	0	3	1 $\frac{1}{2}$	0
4	1	0	2	0
5	1	1	2 $\frac{1}{2}$	0
10	2	2	5	0
20	5	0	10	0
30	7	3	3	0
40	10	1	8	0
50	13	0	1	0
60	15	2	6	0

N. B. That the first Column towards the
left Hand, is the Number of Ells from one
to 60; and the next opposite Columns, is
the Spins, Slips, Cuts, and Loops, that
any of the said Number of Ells will require.

These

These TABLES shew how much true
counted Yarn will warp a 16 and 17
Hundred, from one Ell to 60 Ells.

16 Hundred.

Y.	S.	Sl.	C.	L.
1	0	1	1	2
2	0	2	2	4
3	0	3	4	0
4	1	0	5	2
5	1	1	6	4
10	2	3	1	2
20	5	2	2	4
30	8	1	4	0
40	11	0	4	2
50	13	5	5	4
60	16	2	8	0

17 Hundred.

Y.	S.	Sl.	C.	L.
1	0	1	2	1
2	0	2	4	2
3	0	3	6	3
4	1	0	8	4
5	1	1	10	5
10	2	3	9	4
20	5	3	7	2
30	8	3	5	0
40	11	3	2	4
50	14	3	0	2
60	17	2	10	0

N. B. That the first Column towards the
left Hand, is the Number of Ells from one
to 60; and the next opposite Columns, is
the Spins, Slips, Cuts, and Loops, that
any of the said Number of Ells will require.

These

These TABLES shew how much true
 counted Yarn will warp a 18 and 19
 Hundred, from 1 Ell to 60 Ells.

18 Hundred.

19 Hundred.

Y.	S.	Sl.	C.	L.
1	0	1	3	0
2	0	2	6	0
3	0	3	9	0
4	1	1	0	0
5	1	2	3	0
10	3	0	6	0
20	6	1	0	0
30	9	1	6	0
40	12	2	0	0
50	15	2	6	0
60	18	3	0	0

Y.	S.	Sl.	C.	L.
1	0	1	3	5
2	0	2	7	4
3	0	3	11	3
4	1	1	3	2
5	1	2	7	1
10	3	1	2	4
20	6	2	4	0
30	9	3	7	0
40	13	0	9	2
50	16	1	11	4
60	19	3	2	0

N. B. That the first Column towards the
 left Hand, is the Number of Ells from one
 to 60; and the next opposite Columns, is
 the Spindles, Slips, Cuts, and Loops, that
 any of the said Number of Ells will require.

These TABLES shew how much true counted Yarn will warp a 20 and 21 Hundred, from one Ell to 60 Ells.

20 Hundred.					21 Hundred.				
Y.	S.	Sl.	C.	L.	Y.	S.	Sl.	C.	L.
1	0	1	4	4	1	0	1	5½	0
2	0	2	9	2	2	0	2	11	0
3	1	0	2	0	3	1	0	4½	0
4	1	1	6	4	4	1	1	10	0
5	1	2	11	2	5	1	3	3½	0
10	3	1	10	4	10	3	2	7	0
20	6	3	9	2	20	7	1	2	0
30	10	1	8	0	30	10	3	9	0
40	13	3	4	4	40	14	2	4	0
50	17	1	3	2	50	18	0	11	0
60	20	3	4	0	60	21	3	6	0

N. B. That the first Column towards the left Hand, is the Number of Ells from one to 60; and the next opposite Columns, is the Spinels, Slips, Cuts, and Loops, that any of the said Number of Ells will require.

These

These TABLES shew how much true counted Yarn will warp a 22 and 23 Hundred, from one Ell to 60 Ells.

22 Hundred.

Y.	S.	Sl.	C.	L.
1	0	1	6	2
2	0	3	0	4
3	1	0	7	0
4	1	2	1	2
5	1	3	7	4
10	3	3	3	2
20	7	2	6	4
30	11	1	10	0
40	15	1	1	2
50	19	0	4	4
60	22	3	8	0

23 Hundred.

Y.	S.	Sl.	C.	L.
1	0	1	7	1
2	0	3	2	2
3	1	0	9	3
4	1	2	4	4
5	1	3	11	5
10	3	3	11	4
20	7	3	11	2
30	11	3	11	0
40	15	3	10	4
50	19	3	10	2
60	23	3	10	0

N. B. That the first Column towards the left Hand, is the Number of Ells from one to 60; and the next opposite Columns, is the Spinals, Slips, Cuts, and Loops, that any of the said Number of Ells will require.

These

These TABLES shew how much true counted Yarn will warp a 24 and 25 Hundred, from one Ell to 60 Ells.

24 Hundred.

Y.	S.	Sl.	C.	L.
1	0	1	8	0
2	0	3	4	0
3	1	1	0	0
4	1	2	8	0
5	2	0	4	0
10	4	0	8	0
20	8	1	4	0
30	12	2	0	0
40	16	2	8	0
50	20	3	4	0
60	25	0	0	0

25 Hundred.

Y.	S.	Sl.	C.	L.
1	0	1	8	5
2	0	3	5	4
3	1	1	2	3
4	1	2	11	2
5	2	0	8	1
10	4	1	4	2
20	8	2	8	4
30	13	0	1	0
40	17	1	5	2
50	21	2	9	4
60	26	0	2	0

N. B. That the first Column towards the left Hand, is the Number of Ells from one to 60; and the next opposite Columns, is the Spindles, Slips, Cuts, and Loops, that any of the said Number of Ells will require.

EXPLA.

EXPLANATION of the foregoing Tables.

EXAMPLE, and one will serve for all.

Suppose you want to know how much Yarn will warp 40 Yards of 13 Hundred, look in the Table of 13 Hundred, and opposite to 40 Yards stands 9 Spinel, 1 Cut, and 2 Loops, which will warp 40 Yards; and for 50 Yards stands opposite, 11 Spinel, 1 Slip, 1 Cut, and 4 Loops, which will warp 50 Yards; but if you should require 35 Yards, add the Number of Yarn that stands opposite to 30 Yards, and the Number of Yarn that stands opposite to 5 Yards together, and that will amount to 7 Spinel, 3 Slips, 7 Cuts, and 1 Loop, which is the Number of Yarn that 35 Yards will require; and so for any other odd Number of Yards, as 41, 42, 43, 44, &c. always adding the first greatest Number, and the next lesser together, which makes up the Sum of Yarn.

As there is no Woof mentioned in the 20 foregoing Tables, the Proportion will be in the *Dutch* Method at 6 Spinel Warp to 5 of Woof; but if they be fine of the Set, it will take 8 to 7, or 9 to 8; and as a great many Persons are of Opinion, especially the *Irish*, that setting them one Set finer of Warp, by which Means they take a greater Quantity of Woof, and consequently brings the Cloth nearer to a Square, the Proportion in the *Irish* Method, will be as 13 Spinel of Warp is to 12 Spinel of Woof, or near equal; and I am of Opinion that this Way would answer private Persons better than the *Dutch* Method, because a great many have not a Stock of Yarn to make such a Piece, or Pieces, of Cloth. The 20 following Tables will shew how much true counted Yarn will make any Number of Yards in Warp and Woof; and as the Length of the Reels and Tell of Yarn was mentioned before, I shall give a second

cond Direction as follows; 45 Inches of Yarn being too long for one Yard of Cloth, I shall allow that 42 or $41\frac{1}{2}$ Inches, without taking a very strick Calculation on Inches, or Parts of Threads, which would be troublesome for those that want Figures, but 42 Inches, or $41\frac{1}{2}$, is to be allowed for the Length of one Yard, which is 36 Inches, and the Thumb-Breadth makes 37 Inches, the Difference to sink up in the weaving is $4\frac{1}{2}$ or 5 Inches, and then there remains $3\frac{1}{2}$ or 3 Inches over, which will amount, in one Slip of Yarn, to about Half a Cut, which being added to the former Calculation, 72 Porters, makes 75 Porters, which is 15 hundred Warp: That by this Rule, one Slip of Yarn will give 15 hundred of Warp for one Yard of Cloth.

Before I begin with the Tables, take these few Directions; *first*, If ye take $1\frac{1}{2}$ Cuts for one Yard of Cloth, for one Hundred of the Reed, whether fine or coarse, it will be a standing Rule for the better understanding of the following Tables: Suppose ye want to know how much Yarn will warp and woof a 12 Hundred, for one Yard's Length, then say in your Mind, 12 Cuts for 12 Hundred, and 12 Half Cuts for 12 Hundred, is 6 whole Cuts, which being added together, makes 18 Cuts, or 1 Slip and 6 Cuts, which will warp and woof one Yard of a 12 Hundred.

Secondly, For 20 Yards of a 12 Hundred, how much Yarn will it take for Warp and Woof? say by the foregoing Rule, 20 Cuts, and 20 half Cuts, which is 10 Cuts being added together, makes 30 Cuts, which is 2 Slips and 6 Cuts for one Hundred; now 12 Hundred is the Question, then say, 12 and 12, is 24 Slips, and the Half of 12 is 6, which being added together makes 30 Slips, which is 7 Spinel and 2 Slips, that will warp and woof 20 Yards of a 12 Hundred; and so of all the rest throughout all the following Tables.

These

These TABLES shew how much true
 counted Yarn will warp and woof a
 6 and 7 Hundred, from one Yard
 to 60 Yards.

6 Hundred.

Y.	S.	Sl.	C.
1	0	0	9
2	0	1	6
3	0	2	3
4	0	3	0
5	0	3	9
10	1	3	6
20	3	3	0
30	5	2	6
40	7	2	0
50	9	1	6
60	11	1	0

7 Hundred.

Y.	S.	Sl.	C.
1	0	0	10½
2	0	1	9
3	0	2	7½
4	0	3	6
5	1	0	4½
10	2	0	9
20	4	1	6
30	6	2	3
40	8	3	0
50	10	3	9
60	13	0	6

N. B. That the first Column towards the
 left Hand, is the Number of Yards from one
 to 60; and the next opposite Columns, is
 the Spinels, Slips, and Cuts, that will be
 sufficient for any of the said Number of
 Yards in Warp and Woof.

These

These TABLES shew how much true
 counted Yarn will warp and woof a
 8 and 9 Hundred, from one Yard
 to 60 Yards.

8 Hundred;

Y.	S.	Sl.	C.
1	0	1	0
2	0	2	0
3	0	3	0
4	1	0	0
5	1	1	0
10	2	2	0
20	5	0	0
30	7	2	0
40	10	0	0
50	12	2	0
60	15	0	0

9 Hundred;

Y.	S.	Sl.	C.
1	0	1	1½
2	0	2	3
3	0	3	4½
4	1	0	6
5	1	1	7½
10	2	3	3
20	5	2	6
30	8	1	9
40	11	1	0
50	14	0	3
60	16	3	6

N. B. That the first Column towards the
 left Hand, is the Number of Yards from one
 to 60; and the next opposite Columns, is
 the Spindels, Slips, and Cuts, that will be
 sufficient for any of the said Number of
 Yards in Warp and Woof.

These

These Tables shew how much true
s counted Yarn will warp and woof a
bush and 10 Hundred, from one Yard
to 60 Yards.

10 Hundred.

Y.	S.	Sl.	C.
1	0	1	5
2	0	2	6
3	0	3	9
4	1	1	0
5	1	2	3
10	3	0	6
20	6	1	0
30	9	1	6
40	12	2	0
50	15	2	6
60	18	3	0

10 Hundred.

Y.	S.	Sl.	C.
1	0	1	4½
2	0	2	9
3	1	0	1½
4	1	1	6
5	1	2	10½
10	3	1	9
20	6	3	6
30	10	1	3
40	13	3	0
50	17	0	9
60	20	2	6

N. B. That the first Column towards the
left Hand, is the Number of Yards from one
to 60; and the next opposite Columns, is
the Spinels, Slips, and Cuts, that will be
sufficient for any of the said Number of
Yards in Warp and Woof.

These TABLES shew how much true
counted Yarn will warp and woof a
12 and 13 Hundred, from one Yard
to 60 Yards.

12 Hundred.			
Y.	S.	Sl.	C.
1	0	8	6
2	0	3	0
3	1	0	6
4	1	2	0
5	1	3	6
10	3	3	0
20	7	2	0
30	11	1	0
40	15	0	0
50	18	3	0
60	22	2	0

13 Hundred.			
Y.	S.	Sl.	C.
1	0	1	$7\frac{1}{2}$
2	0	3	3
3	1	0	$10\frac{1}{2}$
4	1	2	6
5	2	0	$11\frac{1}{2}$
10	4	0	3
20	8	0	6
30	12	0	9
40	16	1	0
50	20	1	3
60	24	1	6

N. B. That the first Column towards the
left Hand, is the Number of Yards from one
to 60; and the next opposite Columns, is
the Spinels, Slips, and Cuts, that will be
sufficient for any of the said Number of
Yards in Warp and Woof.

These

These TABLES shew how much true
counted Yarn will warp and woof a
14 and 15 Hundred, from one Yard
to 60 Yards.

14 Hundred.

Y.	S.	SL.	C.
1	0	1	9
2	0	5	6
3	1	1	3
4	1	3	0
5	2	0	9
10	4	1	6
20	8	3	0
30	13	0	6
40	17	2	0
50	21	5	6
60	26	1	0

15 Hundred.

Y.	S.	SL.	C.
1	0	1	10½
2	0	2	9
3	1	0	7½
4	1	1	6
5	2	1	4½
10	4	2	9
20	9	1	6
30	14	0	3
40	18	3	0
50	23	1	9
60	28	0	6

N. B. That the first Column towards the
left Hand, is the Number of Yards from one
to 60; and the next opposite Columns, is
the Spinels, Slips, and Cuts, that will be
sufficient for any of the said Number of
Yards in Warp and Woof.

These

These TABLES shew how much true
 counted Yarn will warp and woof a
 16 and 17 Hundred, from one Yard
 to 60 Yards.

16 Hundred.

Y.	S.	Sl.	C.
1	0	2	0
2	1	0	0
3	1	2	0
4	2	0	0
5	2	2	0
10	5	0	0
20	10	0	0
30	15	0	0
40	20	0	0
50	25	0	0
60	30	0	0

17 Hundred.

Y.	S.	Sl.	C.
1	0	2	$1\frac{1}{2}$
2	1	0	3
3	1	2	$4\frac{1}{2}$
4	2	0	6
5	2	2	$7\frac{1}{2}$
10	5	1	3
20	10	2	6
30	15	3	9
40	21	1	0
50	26	2	3
60	31	3	6

N. B. That the first Column towards the
 left Hand, is the Number of Yards from one
 to 60; and the next opposite Columns, is
 the Spins, Slips, and Cuts, that will be
 sufficient for any of the said Number of
 Yards in Warp and Woof.

These

These TABLES shew how much true
counted Yarn will warp and woof a
18 and 19 Hundred, from one Yard
to 60 Yards,

18 Hundred.

Y.	S.	Sl.	C.
1	0	2	3
2	1	0	6
3	1	2	9
4	2	1	0
5	2	3	3
10	5	2	6
20	11	1	0
30	16	3	6
40	22	2	0
50	28	0	6
60	33	3	0

19 Hundred.

Y.	S.	Sl.	C.
1	0	2	4 $\frac{1}{2}$
2	1	0	9
3	1	3	1 $\frac{1}{2}$
4	2	1	6
5	2	3	10 $\frac{1}{2}$
10	5	3	9
20	11	3	6
30	17	3	3
40	23	3	0
50	29	2	9
60	35	2	6

N. B. That the first Column towards the
left Hand, is the Number of Yards from one
to 60; and the next opposite Columns, is
the Spins, Slips, and Cuts, that will be
sufficient for any of the said Number of
Yards in Warp and Woof.

These

These TABLES shew how much true
counted Yarn will warp and woof a
20 and 21 Hundred, from one Yard
to 60 Yards.

20 Hundred.

Y.	S.	Sl.	C.
1	0	2	6
2	1	1	0
3	1	3	6
4	2	2	0
5	3	0	6
10	6	1	0
20	12	2	0
30	18	3	0
40	25	0	0
50	31	1	0
60	37	2	0

21 Hundred.

Y.	S.	Sl.	C.
1	0	2	7 $\frac{1}{2}$
2	1	1	3
3	1	3	10 $\frac{1}{2}$
4	2	2	6
5	3	1	1 $\frac{1}{2}$
10	6	2	3
20	12	0	6
30	19	2	9
40	26	1	0
50	32	3	3
60	39	1	6

N. B. That the first Column towards the
left Hand, is the Number of Yards from one
to 60; and the next opposite Columns, is
the Spindles, Slips, and Cuts, that will be
sufficient for any of the said Number of
Yards in Warp and Woof.

These

These TABLES shew how much true
counted Yarn will warp and woof a
22 and 23 Hundred, from one Yard
to 60 Yards.

22 Hundred.

Y.	S.	SL.	C.
1	0	2	9
2	1	1	6
3	2	0	3
4	2	3	0
5	3	1	9
10	6	3	6
20	13	3	0
30	20	2	6
40	27	2	0
50	34	1	6
60	41	1	0

23 Hundred.

Y.	S.	SL.	C.
1	0	2	10½
2	1	1	9
3	2	0	7½
4	2	3	6
5	3	2	4½
10	7	0	9
20	14	1	6
30	21	2	3
40	28	3	0
50	35	3	9
60	43	0	6

N. B. That the first Column towards the
left Hand, is the Number of Yards from one
to 60; and the next opposite Columns, is
the Spinels, Slips, and Cuts, that will be
sufficient for any of the said Number of
Yards in Warp and Woof.

These

These TABLES shew how much true
 counted Yarn will warp and woof a
 24 and 25 Hundred, from one Yard
 to 60 Yards.

24 Hundred.

Y.	S.	Sl.	C.
1	0	3	0
2	1	2	0
3	2	1	0
4	3	0	0
5	3	3	0
10	7	2	0
20	15	0	0
30	22	2	0
40	30	0	0
50	37	2	0
60	45	0	0

25 Hundred.

Y.	S.	Sl.	C.
1	0	3	1 $\frac{1}{2}$
2	1	2	3
3	2	1	4 $\frac{1}{2}$
4	3	0	6
5	3	3	7 $\frac{1}{2}$
10	7	3	3
20	15	2	6
30	23	1	9
40	31	1	0
50	38	2	3
60	46	3	6

N.B. That the first Column towards the
 left Hand, is the Number of Yards from one
 to 60; and the next opposite Columns, is
 the Spins, Slips, and Cuts, that will be
 sufficient for any of the said Number of
 Yards in Warp and Woof.

These

A TABLE shewing, by the Weight of each Hank of Yarn, *Dutch Weight*, what Fineness is fit for any Hundred, from a 6 to a 25 inclusive; and how many Slips, Cuts, and Threads will weigh one Pound *Dutch*.

H.	W.	Sl.	C.	T.	N. B. That the first Column towards the left Hand, is the Hundreds of the Reed; and next opposite to them, is the Weight of Yarn <i>per</i> Hank, fit for any of the said Hundreds; and the other 3 Columns, is the Slips, Cuts, and Threads (omitting Fractions of Threads) that is contained in one Pound of the said Weight.
6	11	1	5	54	
7	9	1	9	40	
8	$7\frac{1}{2}$	2	1	77	
9	$6\frac{1}{4}$	2	6	86	
10	$5\frac{1}{2}$	2	10	101	
11	$4\frac{3}{4}$	3	4	50	
12	$4\frac{1}{4}$	3	9	21	
13	$3\frac{3}{4}$	4	3	24	
14	$3\frac{1}{2}$	4	6	102	
15	$3\frac{1}{4}$	4	11	9	
16	3	5	4	00	
17	$2\frac{3}{4}$	5	9	98	
18	$2\frac{1}{2}$	6	4	96	
19	$2\frac{1}{4}$	7	1	40	
20	2	8	0	00	
21	$1\frac{3}{4}$	9	1	80	
22	$1\frac{1}{2}$	10	8	00	
23	$1\frac{1}{2}$	11	7	75	
24	$1\frac{1}{4}$	12	11	72	
25	$1\frac{1}{3}$	14	2	72	

Example.

If each Slip of your Yarn that is designed for Warp, weigh $2\frac{1}{2}$ Ounces *Dutch Weight*; then opposite to $2\frac{1}{2}$ Ounces, stands 18 Hundred, which is the Reed that that Fineness of Yarn may be wrought in, and it is 6 Slips, 4 Cuts, and 96 Threads, that will weigh one Pound of that Yarn.

It is not supposed that every one that maketh Cloth can have all their Yarn of such an equal Weight, for that would require a great Stock of Yarn to manufacture the Cloth according to this Weight: But suppose the whole of your Yarn be not of an equal Weight, I shall take a 12 Hundred; now each Slip in the Table is to weigh $4\frac{1}{4}$ Ounces, but if Part of your Yarn weigh 4 Ounces, and Part of it $4\frac{1}{4}$ Ounces, then your Yarn is of two Kinds of Weight: Wind all the 4 Ounce Yarn on the equal Half of the Bobens, and all the $4\frac{1}{4}$ Ounce Yarn on the other Half, then mark them, and set them in the warping Boben about, otherwise if you do not take particular Care, perhaps most of the coarsest of the Yarn may fall on the Side or Middle of the Web, or otherwise it may fall on the Side of a Porter, or Gang, and consequently it will make some Parts of the Cloth thick, and some Parts thin, which spoils the Beauty of the Cloth. Any other Hundred of the Reed, may be made the same Way in coarse Pieces, with them that hath not a good Stock of Yarn, as a 8 Hundred with Part of 7 Ounces, and Part of $7\frac{1}{2}$ Ounces, or 8 Ounces, as the Yarn is coarse, so little discerned in the Odds of Half an Ounce, or an Ounce; and so of all the other Hundreds, observing the foregoing Direction of dividing the Yarn equally according to the Weight; for the Woofs again, according to this Fineness of Warps, will be from a 6 to a 10 Hundred; one Set finer of Woof than Warp; from a 10 to a 15 Hundred, 2 Sets finer of Woof than Warp; from a 15 Hundred and upwards, 3 Sets finer of Woof than Warp; and sometimes, if your Woof does not answer your Expectation above a 20 Hundred, 4 Sets finer of Woof than Warp; and as this is the ordinary Way of Woofs, observe, first, whether the Weight of your Yarn for Warps, will bear such a

Fine.

Fineness of Woof; for if there be but a little Disproportion of Weight, betwixt the Warp and Woof, that was designed for such a Hundred, you must put that warp Yarn in a coarser Reed, otherwise you have a thick Cloth by the Warp, but not by the Woof; for the Design of finer Woof than Warp is, to take as much Woof as may bring the Cloth as near a Square as possible: These must be regulated as the Market answers, the Goodness or Badness of the Flax, the hard twined, or soft twined Yarn, the Desire of the Owner, &c.

If it should be asked, What is the Reason that there is no set Number of Cuts of Woof for one Ell of every Hundred? This would be a hard Question: Or such a certain Number of Spinels, Slips, and Cuts, for such a Number of Ells, as is set down in the Tables? I told you, that the Proportion of Woof was, or is, in the *Dutch* Method, as 6 Spinels Warp to 5 of Woof; but if they be finer of the Set, it will take 8 to 7, or 9 to 8, and from a 10 Hundred and downwards; if very fine of the Set, as much Woof as Warp, which makes a Square Cloth. None can propose to make Linen Cloth mathematically in every Inch, and in every Ell, to strike in such a certain Number of Threads, or as much Woof as Warp; this would be hard and difficult, yea impossible; the Dryness or Moistness of the Weather would be an Impediment, the Situation of the Shop, the Loom good or bad, the Dexterity or not of the Workman, the Goodness or Badness of the Flax, the Strength or Weakness of the Yarn, the Dressing Stuff, &c. Every one that considers these Things, will plainly see that none can give a positive Number of Spinels, Slips, and Cuts, that any certain Number of Ells will take of Woof.

This TABLE shews what Ounces and Drops is contained in the Fractions of Ounces, as $\frac{1}{4}$, or $\frac{1}{2}$, or $\frac{3}{4}$ of an Ounce.

W.	O.	D.
9	9	0
8	8	0
7	7	0
$6\frac{1}{4}$	6	4
$5\frac{1}{2}$	5	8
$4\frac{3}{4}$	4	12
$4\frac{1}{4}$	4	4
$3\frac{3}{4}$	3	12
$3\frac{1}{2}$	3	8
$3\frac{1}{4}$	3	4
3	3	0
$2\frac{3}{4}$	2	12
$2\frac{1}{2}$	2	8
$2\frac{1}{4}$	2	4
2	2	0
$1\frac{3}{4}$	1	12
$1\frac{1}{2}$	1	8
$1\frac{1}{4}$	1	6
$1\frac{1}{4}$	1	4
$1\frac{1}{4}$	1	2

As every one will not so easily understand what Fractions of Ounces is in Drops, I have inserted this Table for the better understanding of the Weight: — The first Column shews the Weight in Ounces and Fractions of Ounces; the opposite Columns shew what any of the said Fractions is in Drops: Suppose $3\frac{1}{2}$ Ounces stands opposite to 3 Ounces and 8 Drops.

Example.

What is $\frac{3}{4}$ of an Ounce?

Rule.

Multiply the Numerator 3 by 16, the Drops in one Ounce, and divide that Product by 4, the Denominator and the Quotient is 12 Drops, and so of the rest.

$$\begin{array}{r} 3 \\ 16 \\ \hline \frac{3}{4} \text{ of an Ounce} \quad 4 \overline{) 48} \quad | \quad 12 \text{ Drops} \\ 48 \\ \hline \end{array}$$

A

A TABLE shewing how many Yards, Quarters, and Nails, omitting Inches, will be given out of one Spinel of Yarn, from a 6 to a 25 Hundred inclusive.

H.	Y.	Q.	N.	N. B. That the first Column towards the left Hand, is the Hundreds of the Reed; and the next opposite Columns are the Yards, Quarters, and Nails, that one Spinel of true counted Yarn will make.
6	5	1	1	
7	4	2	1	
8	4	0	0	
9	3	2	1	
10	3	1	0	

Example.

11	2	3	2	Suppose it was demanded, how many Yards, Quarters, and Nails, out of the Spinel, Warp and Woof, for a 16 Hundred; look for 16 Hundred in the Column of Hundreds, and opposite to 16 Hundred stands 2 Yards; and for 18 Hundred stands 1 Yard, 3 Quarters; and for 24 Hundred stands 1 Yard, 1 Quarter, and 1 Nail; and so of all the rest in this Table.
12	2	2	2	
13	2	1	3	
14	2	1	2	
15	2	0	2	
16	2	0	0	
17	1	3	2	
18	1	3	0	
19	1	2	2	
20	1	2	1	
21	1	2	0	
22	1	1	3	
23	1	1	2	
24	1	1	1	
25	1	1	0	

DIRE.

DIRECTIONS for the following TABLE.

IT is supposed thro' this Book, That when Hundreds is set down upon the Top of each Table, It is not meant the Hundreds of the Reed, but the Hundreds of Warps, in such a Reed or Reeds; as the Cloth intended for Yard-wide when bleached, must be 40 Inches at Shot, so as to be 38 Inches from the Loom: And as some Reeds are made upon 40 Inches, some upon $42\frac{1}{2}$, and some upon $37\frac{1}{8}$ Inches; so it is always to be considered, that as many Hundreds and Porters of any of these Reeds must be filled, so as the Cloth may answer the common Breadths: And as the *Dutch* Reeds are much used; yet some have them not, this Table will shew what they measure on the *Scots* Ell, and so the easier calculate how much Warp you must have to make your Cloth answer the common Breadths; And so for any other Breadths, as Yard at Shot, for to stand $3\frac{1}{2}$ Quarters when bleached; and so of any Breadths whatsoever; always observing the same Fineness or Coarseness of Yarn, in the Tables of Weight, to give such a Number of Hundreds, and Porters of Warp, as to answer your desired Breadths.

A TABLE shewing what the *Dutch* Measures on the *Scots* Ell, from a 6 to a 25 Hundred, inclusive.

D.	Scots Ell.		
H	H.	P.	S.
6	5	1	2
7	6	0	9
8	6	4	0
9	7	4	3
10	8	3	10
11	9	2	17
12	10	2	14
13	11	1	11
14	12	0	18
15	13	0	6
16	13	4	13
17	14	4	0
18	15	3	7
19	16	2	14
20	17	2	1
21	18	1	8
22	19	0	15
23	20	2	0
24	20	4	9
25	21	3	16

N. B. That the first Column towards the left Hand, is the Hundreds *Dutch* Measure, or what is contained in $42\frac{1}{2}$ Inches; and the other 3 Columns are what each of the said Hundreds measures on the *Scots* Ell, in Hundreds, Porters, and Splits.

Example.

If you want to know what a 16 Hundred Reed, *Dutch* Measure, will be on the Ell; look for 16 Hundred in the Column of Hundreds *Dutch*, and opposite to 16 Hundred, stands 13 Hundred, 4 Porters, and 13 Splits, that is contained in the Length of one Ell, and it will take 15 Hundred of Warp to answer the common Breadth, which will be one Hundred and 7 Splits over each Ell of the Reed filled; and so of the rest thro' this Table.

A TABLE shewing the Weight of each Slip of Yarn, *Dutch* Weight, when the Cloth is fine of the Set, according to the *Irish* Method.

Warps. Woofs.		
H.	W.	W.
6	9	$8\frac{1}{2}$
7	8	$7\frac{1}{2}$
8	7	$6\frac{1}{2}$
9	6	$5\frac{1}{2}$
10	5	$4\frac{1}{2}$
11	$4\frac{1}{2}$	4
12	$3\frac{3}{4}$	$3\frac{1}{2}$
13	$3\frac{1}{2}$	$3\frac{1}{4}$
14	$3\frac{1}{4}$	3
15	3	$2\frac{3}{4}$
16	$2\frac{3}{4}$	$2\frac{1}{2}$
17	$2\frac{1}{2}$	$2\frac{1}{4}$
18	$2\frac{1}{4}$	2
19	2	$1\frac{1}{2}$
20	$1\frac{3}{4}$	$1\frac{3}{8}$
21	$1\frac{1}{2}$	$1\frac{1}{4}$
22	$1\frac{3}{8}$	$1\frac{1}{8}$
23	$1\frac{1}{4}$	1
24	$1\frac{1}{8}$	$0\frac{7}{8}$
25	1	$0\frac{3}{4}$

N. B. That the first Column towards the left Hand, is the Hundreds of the Reed, and the next opposite Column, is the Weight of Yarn *per* Hank that will be fit for any of the said Hundreds; and the last Column is the Weight that will be fit for Woofs, being from a 6 to 18 Hundred inclusive, about one Set finer of Woof than Warp, and from a 18 to a 25 Hundred inclusive, 2 Sets finer of Woof.

Example.

If each Slip of your Yarn that is designed for Warp, weighs 3 Ounces, then opposite to 3 Ounces for Warp, stands 15 Hundred, and in the Column of Woofs stands $2\frac{3}{4}$ Ounces, which will be the Fineness of Yarn that will woof a 15 Hundred; and so of the rest thro' this Table.

DIRE-

DIRECTIONS for boiling and preparing of Yarn to be wrought into Cloth.

1. **T**HE sooner the Yarn is boiled after spinning the better, because when it lies long, the Saltiness of the Spittle, when spinning, tenders the Yarn very much.

2. The better that Yarn is cleansed from its Filth, which is best done by Boiling; because altho' Yarn may be made white, yet not well purged, and consequently in the Bleaching, it must thin the Cloth much more than if the Yarn were well cleansed at first; because what Filth is not taken out in the preparing of the Yarn, must of Necessity cleanse in the Bleaching.

3. Now Yarn that is well and thoroughly purged from its Filth, before wrought into Cloth, must of Necessity stand the Trial of Bleaching better; because there is nothing left in the Yarn but the pure Stuff, and consequently it doth not thin so much in the Bleaching as ill prepared Yarn doth.

Of Boiling of Linen-Yarn.

ALtho' a great many have attained to considerable Improvement in Boiling of Yarn by the Help of Receipts printed and dispersed through the Country for that End, yet one Receipt more will not be amiss, as practised by the *Dutch* Weavers when in this Kingdom; and as there is a great many different Opinions in boiling of Yarn, such as

F

Leys

Leys made of Ashes, different Kinds of Ashes, steeping, sowing, grasing, &c. The Dutch do not steep; yet, in my Opinion, if Yarn is not made of soft silky Flax, steeping is necessary.

First of the Kinds and Quantity of Ashes.

The hard Wee-ashes that are burnt of Seaware, are sharpest and most penetrating, and some boil with the whole of these Ashes, without any Mixture of Pot-ashes amongst them; but as the hard Wee-ashes are of a hard Nature, a Mixture of soft Pot-ashes among them doth better, because they make the Yarn soft and more plyable than if it were boiled with the whole of the Wee-ashes.

Of the Quantity of Ashes.

For every two Pound of Yarn, one Pound of hard Ashes, when a Mixture of Pot-ashes is to be used with them; one Pound of the Pot-ashes, is double strong of the Wee-ashes, that is to say, One Pound of Wee-ashes is to boil two Pound of Yarn, and one Pound of Pot-ashes is to boil 4 Pound of Yarn: Now then, the Quantity of Yarn that is to be boiled, is 64 Pound Weight, and then 32 Pound of hard Ashes would be sufficient; but for a Mixture of Pot-ashes, take for every 6 Pound of hard Ashes one Pound of soft, and then deduct so many of the hard Ashes as to have Part of the soft, that is to say, 24 Pound Weight of hard Ashes, and 4 Pound of Pot-ashes, will be sufficient for 64 Pound Weight of Yarn; and so observing an equal Proportion of a right Quantity of both Ashes for any Number of Spindles according to the Weight of the Yarn.

Loch, Rain, River Water is best, being softest; let the Water be as hot as ye cannot hold your Hand

Hand in it, then dissolve the Pot-ashes, put the Ley of them in the Boiler, then stir in a Part of the hard Ashes, finely beat and searched, the Yarn being tied up according to the Coarseness or Fineness; if fine, tied up in two Spinel Bundles, if coarse, tied up in one Spinel Bundles (some link a Chain of the whole, but Tying is better, because it may press too hard together in the Boiler, and so spot the Yarn, as the Water doth not penetrate through the Links) then lay in a Row of the Bundles, and let it sink of its own Accord, straw in some more of the hard Ashes, then another Row of Yarn, and Ashes, till all be in; if the Yarn is well covered with the Ley it is enough; for too much Water makes the Ley weak: If coarse Yarn boil softly 3 Hours, if middling Yarn $2\frac{1}{2}$ Hours, if very fine 2 Hours, or one Hour and an Half, keep it under the Ley for the Air-dying of the Yarn. After it is enough, take it carefully out of the Boiler for breaking, put it immediately in running Water, and if ye have not that Convenience, put it into cold Water standing by for the Air-dying of it, open it out, and rinse it as quickly as possible, wring, shake every Slip very well, for sticking together, hang it up to dry, still shaking once a Day, or more, as it dries, and if it dries very fast, shake it oftner; if the Yarn is hard and stubborn, grasing will help, and for them who have not Convenience of Grass, beating, rubbing, &c. will contribute to make it soft.

F I N I S

Hand in it, then draw the Tether, put the
 Key of them in the Boiler, then lay in a Pair of
 the hard Affes finely beat and searced, the Yarn
 being tied up according to the Counters or Line-
 nels; if fine, tied up in two Spinal Bundles; if
 coarse, tied up in one Spinal Bundle. (Some link
 a Chain of the whole, but Tying is better, be-
 cause it may press too hard together in the Boiler,
 and so hot the Yarn, as the Water does not pe-
 netrate through the Links; then lay in a Row of
 the Bundles, and let it sink of its own Accord,
 throw in some more of the hard Affes, then an-
 other Row of Yarn, and Affes; till all be in; if
 the Yarn is well covered with the Key it is enough;
 for too much Water makes the Key weak: If coarse
 Yarn boil forty 3 Hours, if middling Yarn 25
 Hours, if very fine 2 Hours, or one Hour and an
 Half; keep it under the Key for the Air-drying of
 the Yarn. After it is enough, take it carefully out
 of the Boiler, and pressing - but immediately in
 running Water; and if it have not that Conve-
 niency, put it into cold Water standing by for the
 Air-drying of it, open it out, and make it as quick
 as possible, wring, and every slip very well
 for sticking together, hang it up to dry, till that
 ing once a Day, or more, as it does, and it dries
 very fast, flake it off; if the Yarn is hard and
 Anuborn, gently will help, and for this purpose
 not Counters of Coats being used, it will
 will contribute to make it soft.

FINIS

